

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1-8. (Canceled)

9. (Previously Presented) An ultrasonic inspection apparatus for non-destructive inspection of a work piece, the work piece having an entrance surface and a back wall, the ultrasonic inspection apparatus comprising:

a transmit/receive probe, the transmit/receiver probe comprising a couplant for coupling to the entrance surface of the work piece, wherein the couplant allows for varying the angle under which the coupling to the entrance surface is performed in at least two solid angles,

a transmitter connected to the transmit/receiver probe, the transmitter generating transmit pulses which it then delivers to the probe, wherein the transmit pulses, on the one side, are reflected at the entrance surface of the work piece back to the probe with an entrance echo pulse resulting there from and, on the other side, penetrate the work piece where they are reflected at least once at the back wall of the work piece with a back wall echo pulse resulting there from,

a receiver connected to the probe, the receiver being suited for receiving the entrance echo pulse and the at least one back wall echo pulse and converting the received echo pulses to electric echo signals, and

a bar display, the bar display being suited for showing at least one signal value in real time, with the signal value being derived from one of the following: the entrance echo, one back wall echo, a plurality of back wall echoes.

10. (Previously Presented) The ultrasonic inspection apparatus of claim 9, wherein the work piece under inspection further comprises flaws, the transmit pulses penetrating the work piece are also reflected at the flaws with flaw echoes resulting there from, and the bar display being suited for showing a signal value of a signal being derived from one of the following: the flaw echo of one selected flaw or the flaw echoes of a plurality of flaws.

11. (Previously Presented) The ultrasonic inspection apparatus of claim 9, with the bar display permitting to display in multiple colors, and at least two signal values, wherein the two signal values are displayed one above the other in different colors.

12. (Previously Presented) The ultrasonic inspection apparatus of claim 13, wherein the bar display is disposed proximate to the monitor.

13. (Previously Presented) The ultrasonic inspection apparatus of claim 9, further comprising a monitor that is connected to the receiver for displaying the electric echo signals received from the receiver.

14. (Previously Presented) The ultrasonic inspection apparatus of claim 19, wherein the stripe-shaped area of the monitor is a border area of the monitor.

15. (Previously Presented) The ultrasonic inspection apparatus of claim 13, wherein the monitor has a time axis and the bar display is disposed so as to extend transversely with respect to the time axis of the monitor.

16. (Previously Presented) The ultrasonic inspection apparatus of claim 13, wherein the monitor has a transverse dimension and the bar display has a length that equals the transverse dimension of the monitor.

17. (Previously Presented) The ultrasonic inspection apparatus of claim 9, wherein the bar display is realized by a color LCD array.

18. (Previously Presented) The ultrasonic inspection apparatus of claim 9, wherein the work piece under inspection is composed of at least two sheet metal plates that are joined together by a spot weld joint, and the quality of the spot weld joint is to be determined.

19. (Previously Presented) The ultrasonic inspection apparatus of claim 13, wherein the monitor has a stripe-shaped area and the stripe-shaped area of the monitor is used as the bar display.

20. (Previously Presented) A method for non-destructive inspection of a work piece, the work piece defining an entrance surface and a back wall, the method comprising the steps of:

generating transmit pulses by means of a probe;

delivering the transmit pulses to the entrance surface of the work piece, wherein the transmit pulses, on one side, are reflected at the entrance surface of the work piece back to the probe with an entrance echo pulse resulting therefrom and, on an opposite side, penetrate the work piece where they are reflected at least once at the back wall of the work piece with a back wall echo pulse resulting therefrom;

receiving the entrance echo pulse and the at least one back wall echo pulse from a receiver and converting the received echo pulses to electric echo signals;

displaying the electric echo signals received from the receiver on a monitor;

showing at least one signal value in real time on a bar display, with the signal value being derived from one of (i) the entrance echo, (ii) one back wall echo, or (iii) a plurality of back wall echoes; and

optimizing the coupling of the transmit pulses to the work piece by moving the probe in at least two solid angles and in absolute terms with respect to the work piece.

21. (New) An ultrasonic inspection apparatus for non-destructive inspection of a work piece, the work piece having an entrance surface and a back wall, the ultrasonic inspection apparatus comprising:

a transmit/receive probe, the transmit/receiver probe comprising a couplant for coupling to the entrance surface of the work piece, wherein the couplant allows for varying the angle under which the coupling to the entrance surface is performed in at least two solid angles,

a transmitter connected to the transmit/receiver probe, the transmitter generating transmit pulses which it then delivers to the probe, wherein the transmit pulses, on the one side, are reflected at the entrance surface of the work piece back to the probe with an entrance echo pulse resulting there from and, on the other side, penetrate the work piece where they are reflected at least once at the back wall of the work piece with a back wall echo pulse resulting there from,

a receiver connected to the probe, the receiver being suited for receiving the entrance echo pulse and the at least one back wall echo pulse and converting the received echo pulses to electric echo signals, and

a bar display, the bar display being suited for showing at least one signal value in real time, with the signal value being derived from the amplitude of one of the following: the entrance echo, one back wall echo, a plurality of back wall echoes.